

CLAIMS:

1. Switched full-duplex Ethernet type communication network comprising:
at least one source subscriber equipment and at least one destination subscriber equipment connected to each other through at least one physical link through at least one switch and through at least one virtual link, which is a conceptual representation of a link from a source equipment to at least one destination equipment, wherein each source equipment that transmits Ethernet frames comprises:
a control to segregate between virtual links and to allocate a passband for each virtual link; and
a control to multiplex the virtual links on the physical links output from the equipment, each transmitted frame having a field that identifies the virtual link to which it belongs.
2. Network according to claim 1, wherein each destination equipment comprises a control to subscribe in reception to at least one virtual link and to make segregation between virtual links as far as an application.
3. Network according to claim 1, wherein each switch comprises a control to control an incoming passband for each virtual link.
4. Network according to claim 3, further comprising a static configuration table allowing each switch to know the virtual links that it has to switch and a number of authorized packets for a virtual link.
5. Network according to claim 4, wherein each switch comprises:
a control to configure each input port separately to indicate output ports to which each Ethernet frame must be directed as a function of the field identifier of the virtual link;
a control to monitor flow of Ethernet frames associated with each virtual link that passes through the switch;
a control to reformat the flow in each virtual link; and
a control to multiplex flows in virtual links on each output port.

6. Network according to claim 5, wherein each switch comprises the following in sequence:

- an input port;
- a flow controller;
- a switching motor supporting multideestination transfers;
- a flow controller;
- a flow reformatting device;
- a virtual link multiplexer; and
- an output port;

7. Network according to claim 1, wherein a virtual link is characterized by:

- a transfer direction, the virtual link being single directional;
- a source equipment;
- one or several destination equipment;
- a fixed passband;
- a guaranteed maximum time for transfer of packets from a source equipment to a destination equipment, regardless of the behaviour of the rest of the network, each virtual link having its own transfer time;
- a fixed path on the network; and
- an unique identifier.

8. Network according to claim 1, wherein network redundancy is achieved by doubling up the network, each subscriber having a connection to each of the two networks.